SEROLOGY INVESTIGATIONS

Justification: Studies done to date have demonstrated that serology is a particularly powerful tool in verifying the existence of stocks within populations of fishes. Much of the work presently under way, designed to indicate the presence and distribution of stocks of fishes within a species, if any, is based on measurable differences in morphology and growth rate, both of which are certainly in part phenotypic expressions of an organism's potential. Serological studies offer verification and identification of stocks on a genetic basis. Since our need is for serological studies as a tool primarily, the projects are based on a species approach in the initial stages.

August 6, 1959

SEROLOGY INVESTIGATION

List of Projects

1. Haddock
2. Flounder, yellowtail
3. Redfish, local populations
4. Redfish, big eye, little eye

SUMMARY (TROL SCHEDULE

Investigation: Serology
Biological Laboratory: Woods Hole, Mass.

Project Title	Est.* Cost	Fiscal Years 57	58	59	60	61	62	63	64	65	66
1. Haddock	52.6	--	--	--	--	15.6	14.0	13.0	10.0	--	--
2. Flounder, yellowtail	55.3	--	--	--	--	15.7	14.0	14.9	10.7	--	--
3. Redfish, local populations	76.5	--	--	--	--	--	6.2	9.8	14.0	23.7	22.8
4. Redfish, big eye, little eye	68.3	--	--	--	--	--	--	8.8	13.0	23.6	22.9
Investigation Total	252.7	--	--	--	--	31.3	34.2	46.5	47.7	47.3	45.7

Annual Review: Laboratory	Regional or Area Office	Washington Office

Prepared by: R. L. Edwards — Date 8/6/59

Recommended by: — Date

Lab. Director Herbert W. Graham — 8/6/59

Reg. or Area Dir. Joseph R. Dunn

Branch Chief

Approved by:

Division Chief for Director

*Total needed by Laboratory for project in thousands of dollars.

#714 7/9/59

Delay Pending funds and decision on advisability of starting Serological research at Woods Hole.

U. S. Fish and Wildlife Service
Bureau of Commercial Fisheries

Sheet No. 1

Location: Woods Hole, Mass.
Date: August 6, 1959
File No.

Research Project Outline

Title of Project: Serological studies of the Gulf of Maine haddock

Investigation Title: Serology

Investigation Chief: ~~Vacant~~ R. L. Edwards

Project Leader: Vacant
Name Title Grade

Assistants: (Title and Grade)

Collaborators:

Need for Information: The Laboratory research to date has indicated that there are definable stocks of haddock within our area. These conclusions have been reached through an analysis of tag returns and studies of the variations in vertebral number. Serological studies will indicate the genetic level of stock differentiation, and enable a more satisfactory evaluation of the haddock management problems.

Objective: To determine whether or not Gulf of Maine haddock stocks exist as identifiable genetic groups.

Method of Procedure: Standard techniques of serology.

Phase 1:

Phase 2:

Serology - 1 Sheet No. 2 File No.:

Method of Procedure: (Cont'd)

Phase 3:

Estimated Costs: Total Needed by Laboratory for Complete Project 52.6

	FY 1959	FY 1960	FY 1961
Personal Services	--	--	4.5
Other Expenses:			
Within Project	--	--	2.5
	--	--	--
Lab. Adm. & Ser.	--	--	8.6
Lab. Total	--	--	15.6
Regional Office			.156
Washington Office			
Total			

Recommended Source of Funds S-K and Regular
(S-K, Regular, Contributed, etc.)

Estimated Date of Completion: Phase 1 FY 61; Phase 2 FY ; Phase 3 FY ; Project FY 64

Recommended by: Date

Originator R. L. Edwards 8/6/59

Investigation Chief R. L. Edwards 8/6/59

Laboratory Director Herbert W. Graham 8/6/59

Regional Director Joseph F. Pomeroy 8/19/59

Branch Chief

Approved by:

Division Chief for Director

Remarks

(Continue on reverse side)

Ruling pending funds + decision on advisability of starting serological research at Wash. Hdq.

#715 7/9/59

Hdqtrs 12-24-59

U. S. Fish and Wildlife Service
Bureau of Commercial Fisheries

Sheet No. 1

Location: Woods Hole, Mass.
Date: August 6, 1959
File No.

Research Project Outline

Title of Project: Serological differences in N. E. yellowtail stocks

Investigation Title: Serology

Investigation Chief: ~~Vacant~~ R. L. Edwards

Project Leader: Vacant
Name Title Grade

Assistants: (Title and Grade)

Collaborators:

Need for Information: Data gathered to date, particularly growth rate data, suggests that there are several more or less distinct stocks of yellowtail flounder in the N. E. area. Since growth rates may be largely determined by environment (be phenotypic), any corroboration through serology studies would be extremely valuable for management purposes.

Objective: To determine whether or not the division of the yellowtail flounder population in stocks on the basis of growth rate differences are valid and genetic rather than phenotypic in nature.

Method of Procedure: Standard serological techniques.

Phase 1:

Phase 2:

Serology - 2
Sheet No. 2

File No.:

Method of Procedure: (Cont'd)

Phase 3:

Estimated Costs: Total Needed by Laboratory for Complete Project 55.3

	FY 1959	FY 1960	FY 1961
Personal Services	--	--	4.5
Other Expenses:			
Within Project	--	--	2.5
	--	--	--
Lab. Adm. & Ser.	--	--	8.7
Lab. Total	--	--	15.7
Regional Office			.157
Washington Office			
Total			

Recommended Source of Funds **S-K and Regular**
(S-K, Regular, Contributed, etc.)

Estimated Date of Completion: Phase 1 FY61 ; Phase 2 FY ; Phase 3 FY ; Project FY 64

Recommended by: — Date

Originator **R. L. Edwards** — **8/6/59**

Investigation Chief R. L. Edwards — **8/6/59**

Laboratory Director Herbert W. Graham — **8/6/59**

Regional Director [illegible signature] — **8/19/59**

Branch Chief

Approved by:

Division Chief for Director

Remarks

(Continue on reverse side)

Delay pending funds and decision on advisability of starting a serological research at Woods Hole.

[illegible initials]

#715 7/9/59